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ROHM AND HAAS PATENT

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REMARKS

Applicants thank Examiner Metzmaier for his courteous and congenial telephone interview with Applicants' representative on January 27, 2006.

Claims 30-32 are pending in the present application.

Claims 1-29 are canceled.

Claims 24-25 and 27 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. 5,413,729 to Gaul.

Claims 24-25 and 27 are canceled. Accordingly, the rejection with respect to these claims is moot.

Gaul does not teach a solvent swell composition comprising 30% bv to 50% bv of epsilon-caprolactone and 30% bv to 50% bv of one or more of N-methyl-2-pyrrolidone, 2-pyrrolidone, N-ethyl-2-pyrrolidone, N-cyclohexyl-2-pyrrolidone, N-dodecyl-2-pyrrolidone, N-(2-hydroxyethyl)-2-pyrrolidone and dimethylacetamide as recited in new claim 30; or a solvent swell composition comprising 30% bv to 50% bv of epsilon-caprolactone and 30% bv to 50% bv of N-methyl-2-pyrrolidone as recited in new claim 32.

Gaul also does not teach the subject matter of new claim 31 because it depends directly from claim 30. Accordingly, claims 30-32 are not anticipated by Gaul.

Claims 24-26 and 28-29 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Derwent Abstract, AN 1987-017861, JP-61275352.

Claims 24-26 and 28-29 are canceled. Accordingly, this rejection is moot.

New claims 30-32 are patentable over Derwent Abstract, AN 1987-017861, JP61275352. The Derwent Abstract does not teach or suggest a solvent swell composition comprising 30% bv to 50% bv of epsilon-caprolactone and 30% bv to 50% bv of one or more of N-methyl-2-pyrrolidone, 2-pyrrolidone, N-ethyl-2-pyrrolidone, N-cyclohexyl-2-pyrrolidone, N-dodecyl-2-pyrrolidone, N-(2-hydroxylethyl)-2-pyrrolidone and dimethylacetamide (claim 30); or a solvent swell composition comprising 30% bv to 50% bv of epsilon-caprolactone and 30% bv to 50% bv of N-methyl-2-pyrrolidone (claim 32). The Derwent Abstract is totally silent on the combination of epsilon-caprolactone and one or more of the amides as recited in present claim 30, and the epsilon-caprolactone and N-methyl-2-pyrrolidone composition recited in claim 32. The Derwent Abstract only discloses gamma-butyrolactone, gamma-valerolactone, gamma-caprolactone, delta-

chloro-gamma-valerolactone, delta-caprolactone, alpha, alpha-dimethylbutyrolactone and gamma, gamma-dimethylbutyrolactone. No where does the Abstract recite epsilon-caprolactone with one or more amides in any amount, let alone with the specific amides recited in present claims 30 and 32.

Additionally, the Abstract does not teach or suggest the unexpected results from a composition comprising 30% bv to 50% bv of epsilon-caprolactone and 30% bv to 50% bv of one or more of the amides as recited in claims 30 and 32 to form pores in a polymer material. Figures 2A, 2B show polymer materials treated with compositions within the scope of present claims 30 and 32. Figures 2A and 2B show the porous texture formed on a polymer with a composition comprising 40% bv epsilon-caprolactone and 30% bv of N-methyl-2-pyrrolidone (specification, page 20, lines 4-6). Such porous texturing is highly desirable. The pores which form in the polymer enable metal catalysts to become entrapped in the pores. The catalysts act as seeds for the formation of metal layers on the polymer material during electroless metallization. In addition to forming a metal layer on the polymer, metallization occurs within the pores as well thus anchoring the metal layer on the polymer material. This strengthens the bond reducing the chance of de-lamination of the metal layer on the polymer. See specification, page 5, lines 12-18 and page 15, lines 12-18). The Derwent Abstract does not teach or suggest such an advantage.

The Abstract does not address the problems addressed by the present invention. The Abstract is only concerned with solubilizing polyimide, not providing a composition for forming pores in a polymer material to provide a high integrity metal layer as in the present invention. Accordingly, the person of skill in the art would not have been motivated or have had any reason of making the presently claimed compositions in view of the Abstract because the Abstract is directed to a different purpose.

Accordingly, claims 30-32 are patentable over Derwent Abstract AN 1987-017861, JP-61275352.

Claims 24-29 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. 5,985,040 to Carano et al. in view of U.S. 4,824,443 to Matson et al.

Claims 24-29 are canceled. Accordingly, the rejection with respect to these claims is moot.

Carano et al. do not teach or suggest a solvent swell composition comprising 30% bv to 50% bv of epsilon-caprolactone and 30% bv to 50% bv or one or more amides as recited in

present claims 30 and 32. Carano et al. are totally silent on the use of any lactone except gamma butyrolactone. Further, there is no teaching or suggestion in Carano et al. that any gamma butyrolactone composition would provide the desired porous polymer texturing as shown in Figures 2A and 2B of the present application. Carano et al. do not show or disclose the specific type of surface texturing they desire. They are totally silent on surface texture. As discussed above, the presently claimed composition forms the desired polymer texturing to provide a high integrity bond between a metal layer deposited on the polymer to prevent it from de-laminating. The specification of the present application points out that the claimed composition is the most preferred formulation for addressing the de-lamination problem (specification, page 10, lines 7-12). No where does Carano et al. provide any reason or motivation to make such a composition to address the porosity and lamination problem.

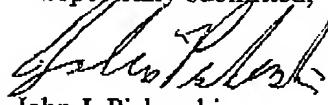
Matson et al. do not make up for the deficiencies of Carano et al. Matson et al. are totally silent on the amount of any lactone used. They do not provide any reason or motivation to use the combination of the epsilon-caprolactone in combination with an amide as recited in the presently claimed invention to achieve the desired porous texture. Matson et al. are only concerned with swelling a polymer to about 20% to about 1000% (col. 5, lines 61-68), not forming pores as the presently claimed composition.

Accordingly, the presently claimed invention is patentable over Carano et al. alone or in combination with Matson et al.

Favorable consideration and allowance of claims 30-32 are earnestly solicited.

Should the examiner have any questions concerning this response or this application, or should he believe this application is for any reason not yet in condition for allowance, he is respectfully requested to telephone the undersigned at the number set forth below to expedite allowance of this application.

Respectfully submitted,


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